

Comment on James Sallee's “Rational Inattention and Energy Efficiency”

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Chicago/RFF Energy Policy Symposium
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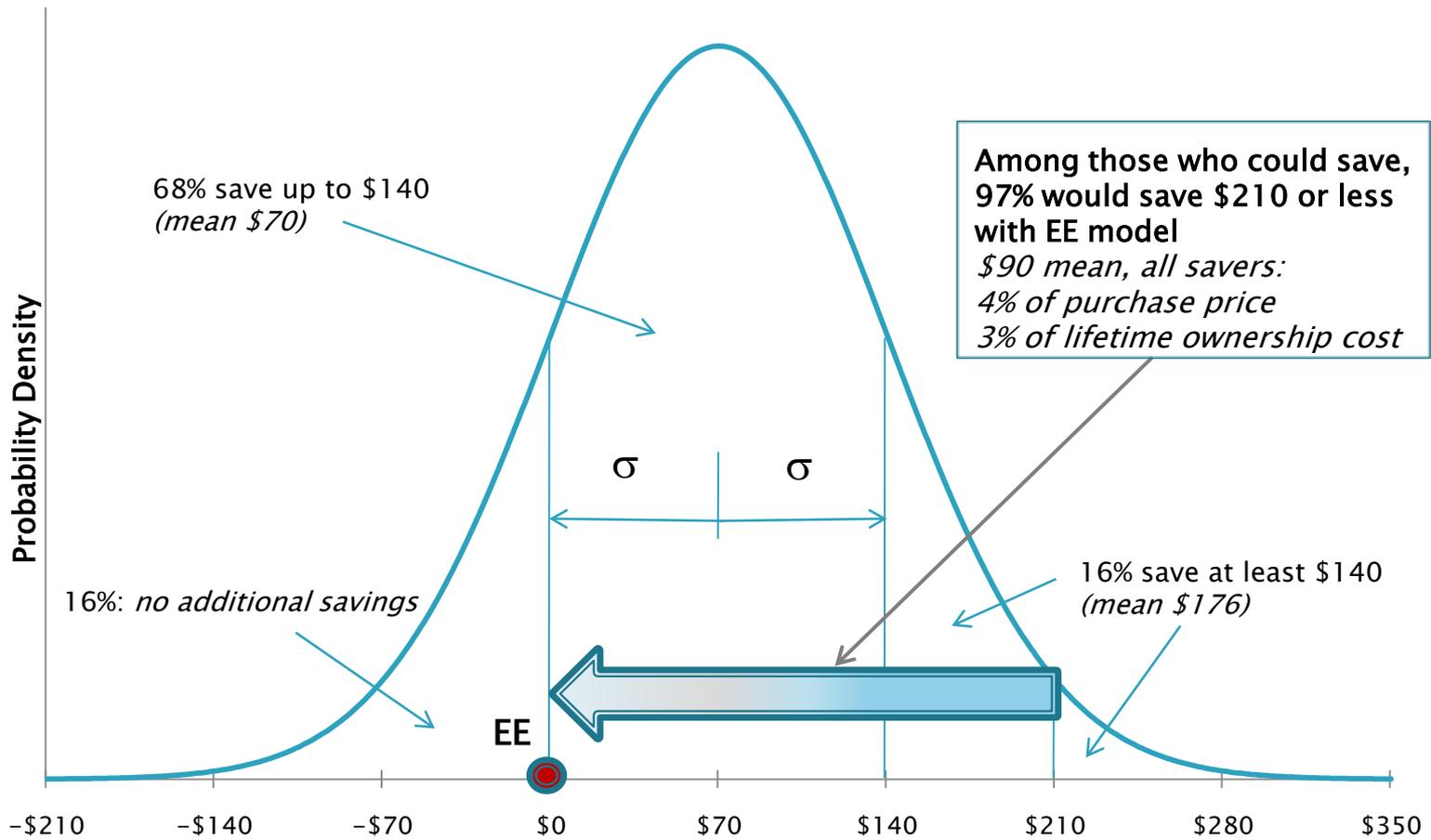
(Ideas my own, not CBO's)

The Paper's Main Points

- ▶ Uneven incentives influence product design
- ▶ Inattention to energy req'ts rational when:
 - Search costs for energy savings are high
 - Gains from shopping for energy savings are small
 - Automobile fuel cost $\sigma = \$1,400$ *28% of price σ*
 - Refrigerator energy cost $\sigma = \$50$ *3% of price σ*
 - (though energy costs can be a large fraction of price)
 - Automobile: $\$22,000$ *Lifetime fuel costs: $\$12,000$*
 - Refrigerator: $\$2,400$ *Lifetime energy costs: $\$730$*
- ▶ Information policies can be improved

Inattention illustrated

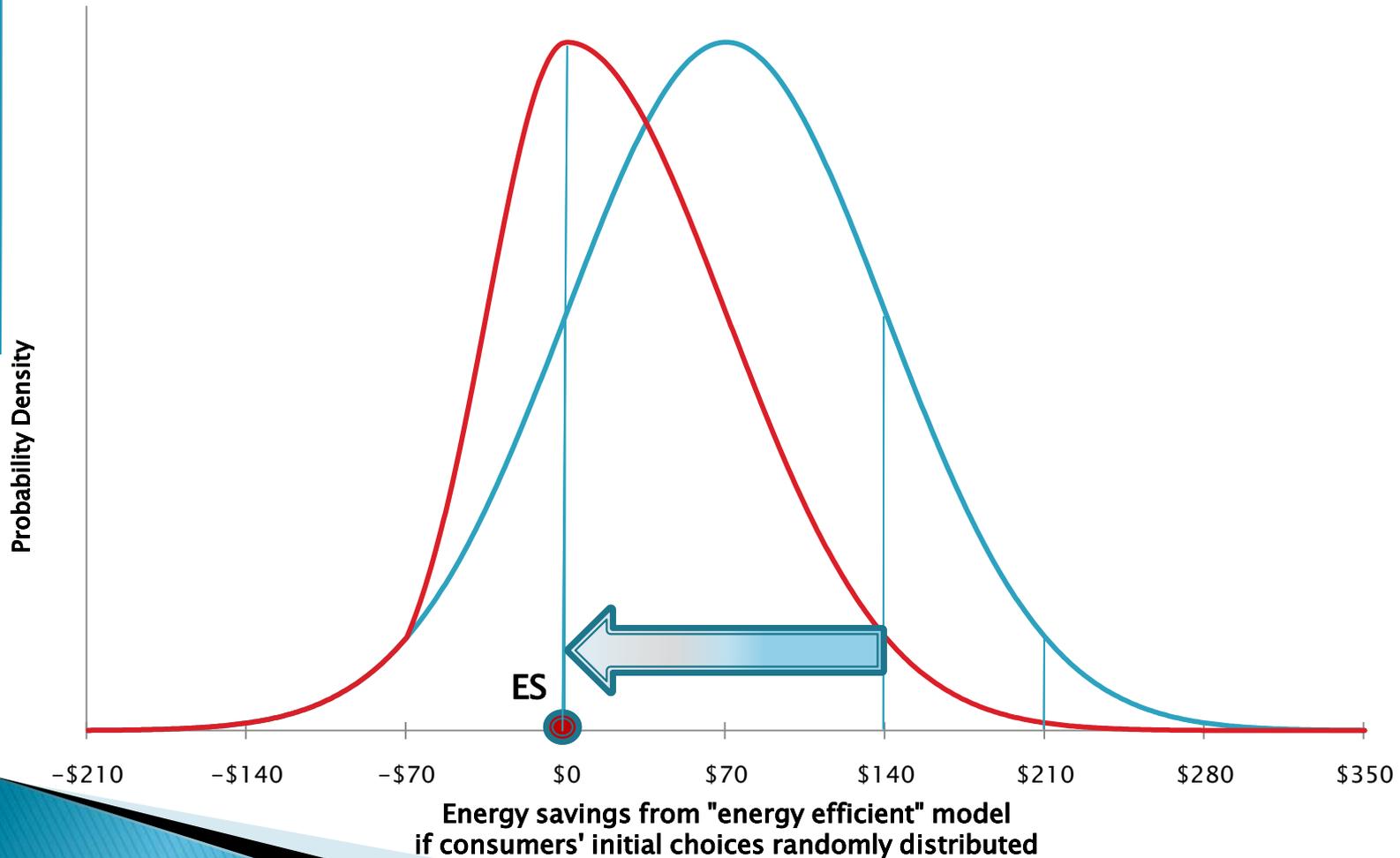
Distribution of side-by-side refrigerator models by energy cost



Energy savings from energy-efficient EE model
if consumers' initial choices randomly distributed

How Energy Star "notch" saves energy

It distorts product design toward greater energy efficiency



Policy Implications

- ▶ *The seeming inefficiency of “bunching”*
(Energy Star; fuel econ labels; guzzler tax):
may be justified by rational inattention
- ▶ *Can reduce search costs*
by providing consumers with additional,
relevant information: *lifetime costs and
distribution of products*

Some unanswered questions

- ▶ Could inattention cause consumers to overpay for energy efficiency?
 - Kempton and Montgomery, 1982, “Folk Quantification of Energy,”
NO: *Consumers’ rules of thumb about EE err in direction of low WTP*
 - *(This paper was written before Energy Star)*

Some unanswered questions

- ▶ Could inattention cause consumers to overpay for energy efficiency?
 - Kempton and Montgomery, 1982, “Folk Quantification of Energy,”
NO: *Consumers’ rules of thumb about EE err in direction of low WTP*
- ▶ Are prices and energy efficiency correlated?
 - *If (+) correlated, inattention is more rational*
 - Insulation adds cost
 - Energy-efficient compressors and motors can add cost

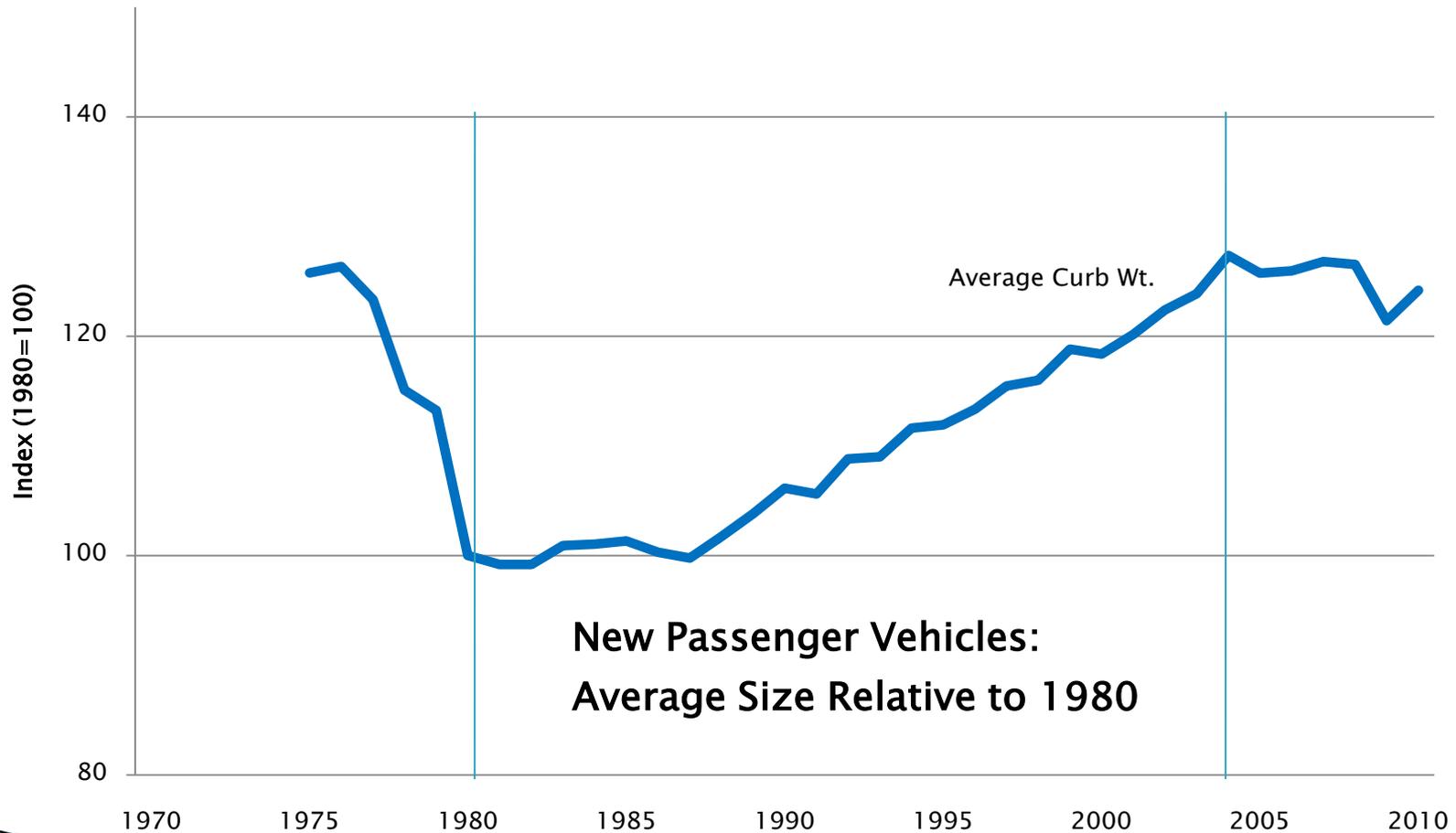
Some unanswered questions

- ▶ Could inattention cause consumers to overpay for energy efficiency?
 - Kempton and Montgomery, 1982, “Folk Quantification of Energy,”
NO: *Consumers’ rules of thumb about EE err in direction of low WTP*
- ▶ Are prices and energy efficiency correlated?
 - *Where (+) correlated, inattention is more rational*
 - Energy-efficient compressors can add cost
 - *Are prices, energy efficiency ever (-) correlated?*
 - *Yes, in down-weighted vehicles*
 - *Providing there is no safety cost*

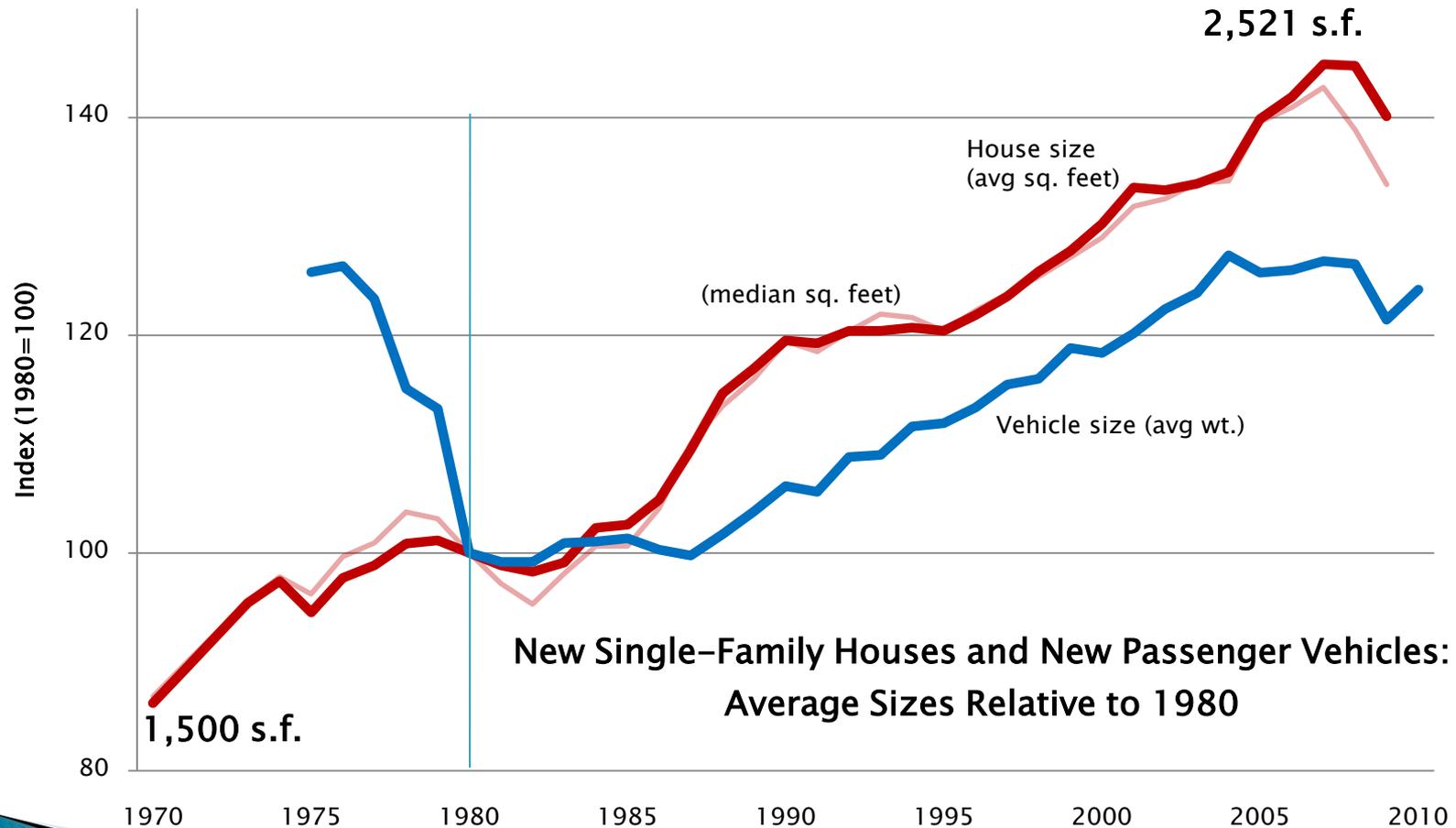
When 'rational inattention' crosses product lines

- ▶ *RI: Gains from efficiency searching are small within product classes*
- ▶ *Is it rational to be inattentive across product classes?
Neg. correlation between price, energy efficiency
→ substantial cost savings are available*
- ▶ *What supported the demand for large SUVs?*
 - *Many financed with home equity*
 - *Rational Inattention, reinforced by changing context*
 - *Large SUV vs. Large wagon*
 - *Ford Expedition: \$40,000*
 - *Annual fuel costs \$4,000 (12 yrs: \$37k)*
 - *Dodge Magnum (8-cyl): \$30,000*
 - *Annual fuel costs \$3,000 (12 years: \$28k)*

Demand for very large passenger vehicles: Rational inattention, reinforced by context



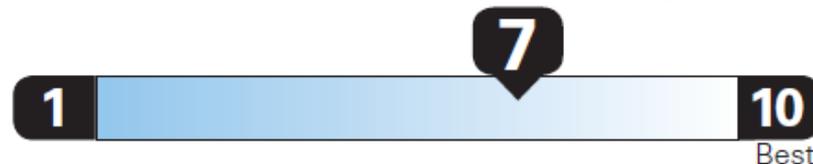
The same forces have influenced building energy consumption



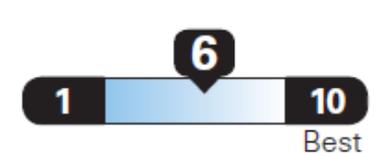
Better information would help (a little)

- ▶ Directly inform consumers about energy costs of optional product attributes
 - *House size*
 - *Attributes that define Energy Guide product classes*
 - *E.g. in-door ice dispensers in refrigerators*
 - PROGRESS:
New fuel-economy labels show relationship between fuel economy, vehicle size
 - *Prius and Escalade directly compared:*

Fuel Economy & Greenhouse Gas Rating (tailpipe only)



Smog Rating (tailpipe only)



This vehicle emits 347 grams CO₂ per mile. The best emits 0 grams per mile (tailpipe only). Producing and distributing fuel also create emissions; learn more at fuelconomy.gov.

Improving Information

- ▶ Show distribution of products in Energy Guide comparisons
 - *Identify endpoints*

